

2 or 1 for protein sequences, or from 1 to 6 for nucleotide sequences. The default, if ktup is not specified, is 2 for proteins and 6 for nucleotides. For a further description of FASTA parameters. Alternatively, protein sequence alignment may be carried out using the CLUSTAL W algorithm as described by Higgins et al., 1996, Methods Enzymol., 266:383-402.

At page 58, at lines 4-6 delete the text beginning "Plasmid..." and replace with the following:

<u>Plasmid</u>	<u>ATCC Accession No.</u>	<u>Date Deposited</u>
M15 pREP (pQE-pmpE-Ct)#37	ATCC PTA-2462	Sept. 12, 2000
TOP10(pBAD-pmpI-Ct-Uni)#7	ATCC PTA-2461	Sept. 12, 2000

IN THE CLAIMS:

>Please cancel Claims 5, 8-14, 25-30, 33-40, 50-56 and 60-72 without prejudice.

Please amend Claims 1-4, 6-7, 15, 31, 41 and 57-59 to read as follows:

1. (Once amended) An isolated putative membrane protein E (PMPE) polypeptide of a *Chlamydia spp.*, having a molecular weight between 90 and 115 kDa as determined by SDS polyacrylamide gel electrophoresis which protein specifically binds an antibody that specifically binds to a protein comprising the amino acid sequence of SEQ ID No.: 2.

2. (Once amended) The PMPE polypeptide of claim 1, wherein the *Chlamydia* spp. is *Chlamydia trachomatis*, *Chlamydia pneumonia*, *Chlamydia psittaci* or *Chlamydia pecorum*.

3. (Once amended) The PMPE polypeptide of claim 2, wherein the *Chlamydia* spp. is *C. trachomatis*.

4. (Once amended) The PMPE polypeptide of claim 1, which comprises an amino acid sequence of SEQ ID NO.:2, a sequence at least 70% identical thereto when % identity is determined using XBLAST program, score=50, wordlength=3, or an at least 8 amino acid fragment thereof which fragment specifically binds an antibody that specifically binds to a protein comprising the amino acid sequence of SEQ ID No.: 2.

6. (Once amended) A peptide fragment of the PMPE polypeptide of claim 1, which fragment is at least 8 amino acids in length and specifically binds an antibody that specifically binds to a protein comprising the amino acid sequence of SEQ ID No.: 2.

7. (Once amended) The peptide fragment of claim 6 wherein said peptide fragment comprises the amino acid sequence of one of SEQ ID NO.:5-22.

15. (Once amended) A vaccine comprising a PMPE polypeptide of claim 1 and a pharmaceutically acceptable carrier or diluent.

A 10
31. (Once amended) The vaccine of any one of claims 15 or 20

additionally comprising one or more immunogens selected from the group consisting of a lipid, lipoprotein, phospholipid, lipooligosaccharide, protein, attenuated organism and inactivated whole cell.

A 11
41. (Once amended) A vaccine comprising one or more of an isolated PMPE polypeptide of a *Chlamydia spp.*, having a molecular weight between 90 and 115 kDa as determined in SDS polyacrylamide gel electrophoresis; or an isolated nucleic acid comprising a nucleotide sequence encoding an PMPE polypeptide of a *Chlamydia spp.*, said PMPE polypeptide having a molecular weight between 90 and 115 kDa as determined by SDS polyacrylamide gel electrophoresis; said vaccine further comprising one or more adjuvants or immunostimulatory compounds selected from the group consisting of alum, MLT, QS21, MF59, CpG DNA, PML, calcium phosphate and PLG.

A 12
57. (Once amended) An isolated recombinant PMPE polypeptide produced by a method comprising culturing a host cell containing a nucleic acid molecule comprising the nucleotide sequence of SEQ ID No.:1 fused to a nucleotide sequence encoding a histidine affinity ((H)₆) domain under conditions suitable for expression of said PMPE polypeptide and recovering said recombinant PMPE polypeptide.

58. (Once amended) An isolated recombinant PMPE polypeptide produced by a method comprising culturing a host cell containing plasmid M15 pREP (pQE-pmpE-Ct) #37 obtainable from *E.coli* having ATCC accession No. PTA-2462 under

conditions suitable for expression of said PMPE polypeptide and recovering said recombinant PMPE polypeptide.

59. (Once amended) An isolated PMPE polypeptide produced by a method comprising culturing a host cell containing a nucleic acid molecule comprising a nucleotide sequence which encodes a PMPE comprising an amino acid sequence of SEQ ID No.: 2 under conditions suitable for the expression of a PMPE polypeptide and recovering said PMPE polypeptide.

Please add new Claims 73-78 as follows:

73. (New) An isolated recombinant PMPE polypeptide comprising a polypeptide encoded by a nucleic acid molecule comprising the nucleotide sequence of SEQ ID No.: 1 fused to a nucleic acid molecule encoding histidine affinity ((H)₆) domain.

74. (New) An isolated recombinant PMPE polypeptide comprising an amino sequence of SEQ ID No.: 2 fused to an amino acid sequence comprising a histidine affinity ((H)₆) domain.

75. (New) An antigenic composition comprising an isolated PMPE polypeptide of a *Chlamydia spp.*, having a molecular weight between 90 and 115 kDa as determined by SDS polyacrylamide gel electrophoresis, wherein the PMPE polypeptide comprises an amino acid sequence of SEQ ID No.: 2 or a fragment of said PMPE polypeptide which fragment is recognizable by an antibody that binds specifically to a polypeptide comprising an amino acid sequence of SEQ ID No.: 2, together with an adjuvant.

A 13

76. (New) An antigenic composition comprising an isolated PMPE polypeptide of a *Chlamydia spp.* having a molecular weight between 90 and 115 Kda as determined by SDS polyacrylamide gel electrophoresis wherein the PMPE polypeptide